UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,897	12/17/2003	Bogdan Timus	4147-56	9093

23117 7590 04/23/2007

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
NGUYEN, TU X	
ART UNIT	PAPER NUMBER
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/736,897	TIMUS ET AL.	
	Examiner	Art Unit	
	Tu X. Nguyen	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso (US Patent 6,671,512) in view of Eibling et al. (US Patent 7,085,580).

Regarding claim 1, Laakso discloses a method for power control in a communication system including a transceiver node capable of communicating with multiple mobile terminals, comprising the steps of:

receiving, at the transceiver node (see col.3 lines 44-45), a transmitter power change request from one of the mobile terminals over a wireless connection (see col.2 lines 24-25, Laakso teaches uplink TPC command is a request power change at the base station);

determining, at the transceiver node, at least one power control parameter for the connection (see col.10 lines 16-34, "non-real time users", "real-time users" corresponds to

"power control parameter for the connection") based on a current total transmitter power of the transceiver node (see col.9 lines 49-51, col.19 lines 15-16); and

distributing transmitter power to the connection in accordance with the determined power control parameter (see col.10 lines 15-32, Laakso teaches different power distribution for different users such as packet scheduling for non-real time user, lower Eb/No target for real-time users).

Laakso fails to disclose providing a power increase for the connection in a manner to provide smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value.

In the related art, Eibling et al. disclose providing a power increase for the connection in a manner to provide smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value (see col.10 lines 34-66). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Laakso with the above teaching of Eibling et al. in order to provide averaging the power of plurality of measurement intervals, thus to provide smooth transitional behavior of current total transmitter power of the transceiver node.

Regarding claim 2, the modified Laakso discloses the current total transmitter power represents substantially all downlink power resources, common and connection-specific, used at the transceiver node at a particular point of time (see col.4 line 19 through col.9 line 30, "periodically monitor" corresponds to "at a particular point of time").

Regarding claim 3, the modified Laakso discloses the step of measuring the current total transmitter power at the transceiver node (see col.2 lines 37-44).

Regarding claim 4, the modified Laakso discloses the determining step is further based on a current connection-specific transmitter power for the connection (see col.10 lines 29-30, "the most critical downlink connections" corresponds to "connection-specific").

Regarding claim 5, the modified Laakso discloses the total transmitter power is a downlink carrier power (see col.17 lines 35-41) and the connection-specific transmitter power is a downlink code power (see col.14 lines 20-44, different connection types, real-time or non-real time, is a different power distribution).

Regarding claim 6, the modified Laakso discloses the determining step is further based on connection-specific information indicating the degree of priority associated with the connection (see col.14 lines 15-20).

Regarding claim 7, the modified Laakso discloses the connection-specific information comprises information selected from the group of: mobile type, mobile class (see col.14 lines 15-20), subscription class, connection time, transmitted data amount, data amount in buffer, packet length, packet type (see col.4 lines 1-7, "non-real time data packet" corresponds to "packet type"), time since last packet, block error statistics, and block retransmission statistics.

Regarding claim 8, the modified Laakso discloses the power control parameter is related to a maximum value of the connection-specific transmitter power (see col.17 lines 35-57).

Regarding claim 9, the modified Laakso discloses the power control parameter is directly or indirectly related to a power change rate of the connection-specific transmitter power (see col.10 lines 25-26).

Regarding claim 10, the modified Laakso discloses the power control parameter is related to a probability of grant (col.13 lines 44-61, equations 1 and 2 demonstrate the probability of transmission power parameter related granting power for each type of user).

Regarding claim 11, the modified Laakso discloses the power control parameter is related to a power change step size (see col.14 lines 36-46, 0.5dB or 1dB is power change step size).

Regarding claim 12, the modified Laakso discloses at the transceiver node, at least two power control parameters based on different input parameters into an aggregate power control parameter (see col.7 line lines 40-65, Laakso teaches total transmission power based on different input parameters such as power transmission for real-time connection and non-real time connection); and using the aggregate power control parameter for distributing the connection-specific transmitter power in the distributing step (see col.10 lines 15-32).

Regarding claim 13, the modified Laakso discloses the determining step involves executing a predetermined power control function presenting a smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value (see col.17 lines 35-57, Laakso teaches when the transmission power approaches maximum value, the baser station perform plurality of steps such as packet scheduling for non-real time traffic, decrease bit rates).

Regarding claim 14, the modified Laakso discloses the determining step involves deciding the power control parameter based on a predetermined threshold value for the total transmitter power (see col.17 lines 5-22).

Regarding claim 15, the modified Laakso disclose the determining step is based on current and previous values of the total transmitter power (see Eibling, col.3 lines 50-66).

Regarding claim 16, Laakso discloses a transceiver node (see col.3 lines 44-45) configured to communicate with multiple mobile terminals (see col.3 lines 37-38) in a communication system including one of the mobile terminals which is invluled in a connection and which sends a transmitter power change request to the transceiver node over a wireless connection (see col.2 lines 24-25, Laakso teaches uplink TPC command is a request power change at the base station); the transmitter node being further configured to determine at least one power control parameter for the connection (see col.10 lines 16-34, "non-real time users", "real-time users" corresponds to "power control parameter for the connection") based on a current total transmitter power of the transceiver node (see col.9 lines 49-51, col.19 lines 15-16); and

to allocate transmitter power to the connection in accordance with the determined power control parameter (see col.10 lines 15-32).

Laakso fails to disclose providing a power increase for the connection in a manner to provide smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value.

In the related art, Eibling et al. disclose providing a power increase for the connection in a manner to provide smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value (see col.10 lines 34-66). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Laakso with the above teaching of Eibling et al. in

order to provide averaging the power of plurality of measurement intervals, thus to provide smooth transitional behavior of current total transmitter power of the transceiver node.

Regarding claim 17, the modified Laakso discloses the current total transmitter power represents substantially all downlink power resources, common and connection-specific, used at the transceiver node at a particular point of time (see col.4 line 19 through col.9 line 30, "periodically monitor" corresponds to "at a particular point of time").

Regarding claim 18, the modified Laakso discloses the node is further configured to determine based on a current connection-specific transmitter power for the connection (see col.10 lines 15-32, Laakso teaches different power distribution for different users such as packet scheduling for non-real time user, lower Eb/No target for real-time users).

Regarding claim 19, the modified Laakso discloses the node is further configured to measure the total transmitter power is a downlink carrier power (see col.17 lines 35-41) and the connection-specific transmitter power is a downlink code power (see col.14 lines 5-14).

Regarding claim 20, the modified Laakso discloses the node is further configured to determine the power control parameter based on connection-specific information indicating the degree of priority associated with the connection (see col.14 lines 15-20).

Regarding claim 21, the modified Laakso discloses the power control parameter is related to an item selected from the group of a maximum value of the connection-specific transmitter power, a probability of grant, and a power change step size (see col.14 lines 35-41).

Regarding claim 22, the modified Laakso discloses means for combining at least two power control parameters based on different input parameters into an aggregate power control

parameter (col.4 lines 35 through col.9 line 39); and means for using the aggregate power control parameter for adjustments of connection-specific transmitter power (see col.10 lines 15-32).

Regarding claim 23, the modified Laakso discloses the determining step involves executing a predetermined power control function presenting a smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value (see col.17 lines 35-57, Laakso teaches when the transmission power approaches maximum value, the baser station perform plurality of steps such as packet scheduling for non-real time traffic, decrease bit rates).

Regarding claim 24, the modified Laakso discloses the node is further configured to decide the power control parameter based on a predetermined threshold value for the total transmitter power (see col.17 lines 5-22).

Regarding claim 25, the modified Laakso discloses a base station unit (see col.3 lines 44-45).

Regarding claim 26, Laakso discloses a communication system provided with means for power control and including a transceiver node capable of communicating with multiple mobile terminals, comprising means for receiving, at the transceiver node (see col.3 lines 44-45), a transmitter power change request from one of the mobile terminals over a wireless connection (see col.2 lines 24-25, Laakso teaches uplink TPC command is a request power change at the base station); means for determining at least one power control parameter for the connection (see col.10 lines 16-34, "non-real time users", "real-time users" corresponds to "power control parameter for the connection") based on a current total transmitter power of the transceiver

node (see col.9 lines 49-51, col.19 lines 15-16); and means for distributing transmitter power to the connection in accordance with the determined power control parameter (see col.10 lines 15-32).

Laakso fails to disclose providing a power increase for the connection in a manner to provide smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value.

In the related art, Eibling et al. disclose providing a power increase for the connection in a manner to provide smooth transitional behavior as the current total transmitter power of the transceiver node approaches a maximum total transmitter power value (see col.10 lines 34-66). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Laakso with the above teaching of Eibling et al. in order to provide averaging the power of plurality of measurement intervals, thus to provide smooth transitional behavior of current total transmitter power of the transceiver node.

Regarding claim 27, the modified Laakso discloses the current total transmitter power represents substantially all downlink power resources, common and connection-specific, used at the transceiver node at a particular point of time (see col.4 line 19 through col.9 line 30, "periodically monitor" corresponds to "at a particular point of time").

Regarding claim 28, the modified Laakso discloses determining the power control parameter based on a current connection-specific transmitter power for the connection (see col.10 lines 29-30, "the most critical downlink connections" corresponds to "connection-specific").

Regarding claim 29, the modified Laakso discloses means for determining the power control parameter based on connection-specific information indicating the degree of priority associated with the connection (see col.14 lines 15-20).

Regarding claim 30, the modified Laakso discloses means for transmitting the connection-specific information from a network-based control unit of the communication system to the transceiver node (see col.3 lines 46-55 and col.10 lines 11-15).

Regarding claim 31, the modified Laakso discloses the power control parameter is related to an item selected from the group of a maximum value of the connection-specific transmitter power (see col.17 lines 35-40), a probability of grant, and a power change step size (see col.14 lines 35-41).

Regarding claim 32, the modified Laakso disclosesbeing selected from the group of: a Code Division Multiple Access (CDMA) system, a Wideband Code Division Multiple Access (WCDMA) system (see col.10 lines 6-7), an Orthogonal Frequency Division Multiplexing (OFDM) system, and a system using Multi Carrier Power Amplifiers (MCPA).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until

after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed Tu Nguyen whose telephone number is 571-272-7883.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 11, 2007

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600